BASELINE ENVIRONMENTAL SITE ASSESSMENT

Performed in reference to the
Colorado Environmental Management System (EMS) Permit Pilot Project

Facility Assessed:

Magnum Feedyard, LLC
11665 Morgan County Road 1
Wiggins, Colorado 80654

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INTRODUCTION

This Baseline Environmental Site Assessment conducted by Enviro-Ag Engineering, Inc. (EAE) on Magnum Feedyard, LLC in Wiggins, Morgan County, Colorado was authorized by Ms. Phyllis Woodford of the Colorado Department of Public Health and Environment (CDPHE) – Sustainability Program. The subject facility and surrounding properties was assessed on December 15, 2004, by Mr. Gary Chapman, P.E., representing EAE. Also present during the site assessment were Mr. Steve Gabel, owner and operator of Magnum Feedyard, LLC, Ms. Woodford, Program Manager of CDPHE's Sustainability Program, and Ms. Meg Collins, Director of Colorado Livestock Association's Livestock Government Affairs Project.

The purpose of this assessment is to provide information relating to environmental issues, historical activities and current operational protocols to serve as a baseline for the EMS Program for this facility. The scope of this assessment did not include any intrusive sampling and analysis of potential asbestos containing material (ACM), lead, water, soil or air. Reference to spills, leaks or media contamination (if any) is based on observations made during the site assessment or reports from persons interviewed or research of public records. The scope of this assessment did not include inquiry as to the status of any type of historical preservation, or endangered or threatened species that may be present in the surrounding area of the subject property. No certifications are made as part of this assessment as to the location of the property in relation to any flood areas, however, inquiries were made during the interview process and through research to document any published flood plain areas and to document the awareness of the facility of any potential flood hazards.

Factual information regarding operations, conditions and historical data has been obtained from the site investigation; interviews with persons knowledgeable of the site, and; in part, from the current owner, and has been assumed by EAE to be correct and complete. Since the facts stated in this report are subject to professional interpretation, they could result in differing conclusions.

This report is prepared exclusively for the CDPHE and Magnum Feedyard, LLC; therefore, EAE is not responsible for conclusions, opinions, or recommendations made by third parties based on the data presented in this report.

FACILITY INFORMATION

Location Information

Magnum Feedyard is a beef cattle feedyard with associated farm and rangeland occupying a total of 2,100 acres. The feedyard is located approximately 5.5 miles southwest of Wiggins, Colorado in Morgan County. The physical address of the facility is 11665 Morgan County Road 1. The facility is located in portions of Sections 5 and 6, Township 2 North, Range 60 West and Section 31, Township 3 N, Range 60 West in Morgan County. The Global Positioning System (GPS) coordinates of the facility's main entrance are a latitude of 408 109 110 North and a longitude of 1048 079 560 East.

Driving instructions to the facility are as follows: From the town of Wiggins, Colorado, travel south on Morgan County Road (MCR) 4 one mile to MCR P; at MCR P, travel west one mile to MCR 3; at MCR 3, travel south one mile to MCR O; at MCR O, travel west one mile to MCR 2; at MCR 2, travel south 1.5 miles to MCR M/2; at MCR M/2, travel west one mile to MCR 1;at MCR 1, travel south one mile to the main entrance to the facility on the west side of the road.

Facility Operation

The facility is currently operated as a beef cattle feeding facility with a confinement capacity for 22,000 head of feeder cattle. The average live animal weight of the cattle is approximately 850 pounds. The facility receives, stores and blends feed on-site for the confined cattle.

The referenced property consists of grain storage bins, a shop, an office, three residences, a feedmill, two animal processing barns, confinement pens, center pivot sprinkler systems, water wells and improved roadways.

History of Ownership/Operation

The feedyard was originally constructed in 1943 by the Alkire family and operated with a 5,000 head maximum capacity. The feedyard was owned by Herb and Bud Alkire and operated at that capacity until 1994, when Steve Gabel purchased the feedyard and named the facility Magnum Feedyard. Since 1994, Magnum Feedyard has slowly rebuilt the original feedyard and expanded to their current 22,000 head capacity.

Geographical Setting

The feedyard is located in the west central portion of Morgan County and occupies approximately 820 acres. The 2,000 acres of irrigated cropland and native sage and grasslands provide a buffer around much of the remotely located feedyard. In time, a line of 40 trees planted along the north side of the feedyard in 2000 will add another natural buffer to the feedyard. Of this acreage, feedyard improvements occupy approximately 100 acres. In addition, Magnum Feedyard, LLC owns 720 acres that are irrigated croplands and 1,280 acres of native sage and grasslands. The west property boundary to the feedyard is the west line of Morgan County and the east line of Weld County. The facility lies within the watershed of the South Platte River, which is located approximately 13 miles north of the facility.

Surface runoff from the property (not within the confined animal areas) and surrounding areas is directed northerly to the South Platte River via Rock Creek and Kiowa Creek as shown on the USGS Quadrangle Map. The USGS Quadrangle Map shows the flowline of Rock Creek to extend through the approximate center of the feedyard area. According to Mr. Gabel, the feedyard lies within the published 100-Year Flood Plain of Rock Creek. This fact was confirmed by a cursory review of FEMA-published flood plain maps. The USGS Quadrangle map identifies an abandoned West Nile Reservoir approximately one-half mile south of the facility and shows the flowline of Rock Creek extending through a portion of the abandoned north berm of the West Nile Reservoir.

The soils beneath the feedyard property are primarily sands and sandy-loams as reported by the USDA-NRCS Morgan County Soil Survey. Bankard sandy loams, Bijou loamy sands, Bresser loamy sands and sandy loams, Heldt clay loams and sandy loams, Nunn clay loams, Truckton loamy sands and Valentine sands are the soil series listed by the Soil Survey as being present on the feedyard property.

The direction prevailing winds is from the northwest during the fall and winter months. Winds in the later spring and summer are typically from the south.

Off-site Property Reconnaissance

Located north of the feedyard is a small mobile home development along the north side of Morgan County Road M/2. North of those mobile homes is native sage and grasslands. Located east of the feedyard are native sage and grasslands with several mobile homes located at the intersection of Morgan County Roads 1 and M/2. Located south of the feedyard are native sage and grasslands with the abandoned West Nile Reservoir located one-half mile south of the property. Located west of the feedyard are native sage and grasslands along with irrigated farmland.

ANIMAL WASTE, WASTEWATER & FEED HANDLING

Confinement Areas

Beef cattle at the feedyard are confined in open lot pens constructed of steel pipe and cable fencing (approximately 132 pens at the time of the site assessment). Concrete bunks, or troughs, exist along one side of the feed pens adjacent to concrete aprons that serve as feeding platforms. Approximately 240 water troughs exist in the middle of the pen or in a pen line to provide water to the animals. The water troughs are surrounded by a concrete pad that helps to maintain a stable footing environment around the troughs. During the colder winter months, Walter Ice Preventor's create an overflow from troughs in order to prevent water lines from freezing. It is estimated that the Walter Ice Preventor devices create an annual savings of 200 gallons of fresh water. In addition, the fresh water overflow serves as recharge.

Manure excreted in the confinement pens is graded to create mounds in each pen. This is a routine maintenance procedure performed by Magnum Feedyard to accomplish several goals. This activity typically occurs following each turn of cattle from each pen. Creating mounds in the center of the pens promotes positive runoff and allows pens surfaces to dry quicker. The mounds create a drier surface for the cattle to utilize. Additionally, mounding minimizes ponding of surface runoff, which is known to promote vectors.

Surface runoff from the pens travels through constructed waterways throughout the facility and flows towards the runoff ponds. Large culverts exist in two separate locations in the center portion of the confinement area to convey runoff north to the north runoff pond. Additionally, drainage ditches are maintained along the east side of the facility to convey runoff to the east runoff pond.

One small processing barn exists south of the office and is used to process and doctor cattle as needed. A concrete settling basin exists at the northeast corner of this structure for temporary storage of clean up water from the barn. Once the basin fills up, the feedyard utilizes a 2-1/2" portable suction pump to transfer wastewater from the basin to the east runoff pond. Any remaining solids in the basin are removed by a loader and placed in a manure stockpile.

Impoundments

Magnum Feedyard utilizes two ponds to store surface runoff from the confinement pens and other adjacent areas within the feedyard property. These runoff ponds are located in topographic "lows" on the property, naturally-occurring depressions. One pond, referred to as the east pond for this report, is located south of the main office along the west side of MCR 1. The second runoff pond, referred to as the north

pond for this report, exists north of the confinement areas and west of the feedmill area. Grading performed in the pens and in surrounding areas allow for satisfactory conveyance of surface runoff toward these ponds.

Both runoff ponds exist without constructed berms as the ponds are located below the natural ground surface. Both runoff ponds exist without defined dimensions (structures). Runoff is stored in the lower areas of the runoff ponds and as the water level rises in the pond, wastewater backs up towards the confinement pens. The east runoff pond is sited such that any discharge or encroachment over the freeboard level will not likely leave the property and back up westerly towards the confinement areas and across Morgan County Road 1 towards the evaporation ponds. Likewise, should rising water levels in the north pond exceed the physical capacity of the pond, wastewater will have a tendency to back up southerly toward the confinement areas and northerly toward the farmground (facility-owned) adjacent to the feedyard.

Magnum Feedyard currently utilizes two evaporation impoundments located east of the feedyard (across Morgan County Road 1 in Section 5) to dispose of excess wastewater. Wastewater is transferred from the east runoff pond with a power-take-off (PTO)-driven pump and three-inch diameter pipeline beneath Morgan County Road 1 to the two evaporation impoundments.

Approximately four pens along the south side of the feedyard drain toward a low-lying area along the south property line. This low-lying area is not designated as a runoff pond. Wastewater was observed in this area at the time of the site assessment. Areas immediately surrounding this low-lying area are utilized for storage of old abandoned equipment, scrap metal and lumber. Another low-lying area immediately southwest of the feedmill area tends to collect runoff from the feedmill and commodity storage areas during heavy rainfall events.

Surface run-on from off-site areas is generally well contained on the west and north sides due to the natural topography. However, areas south and east of the feedyard could generate run-on toward the confinement areas during heavy rainfall events causing undue burden on the existing runoff ponds. As stated earlier, the feedyard lies within the published flood plain of Rock Creek, therefore, the potential exists for substantial amounts of run-on from the south and east areas. Currently, Magnum Feedyard is working with their engineering consultant, AGPROfessionals, LLC, to address the 100-Year flood plain issue and off-site run-on areas.

At the time of the assessment, none of the four wastewater storage impoundments at Magnum Feedyard was observed to have pond depth markers. No documentation was available at Magnum Feedyard regarding the ability of any of the impoundments to meet the State of Colorado's minimum seepage requirement and no documentation was available at Magnum Feedyard regarding the storage capacity of the impoundments. However, the feedyard and impoundments have been surveyed and an analysis of the drainage area of the two runoff ponds has been performed by AGPROfessionals, LLC. None of the impoundments contained constructed spillways. Based on the site assessment, however, the runoff ponds exist such that spillways may not be required as no structures (berms) exist to be protected.

Manure Disposal

Liquid Manure

The primary means of disposal of wastewater from the facility is by evaporation. The two existing evaporation impoundments located east of the feedyard are used to dispose of any excess wastewater. Wastewater is transferred from the east runoff pond with a PTO-driven pump and 3-inch diameter pipeline beneath Morgan County Road 1 to the two evaporation impoundments. Currently, the north runoff pond does not have the ability to be dewatered to the evaporation ponds.

Although plumbing does not exist from the runoff and evaporation ponds, Magnum Feedyard has access to approximately 360 acres under center pivot sprinkler irrigation systems to dispose of wastewater. The pivots contain backflow prevention valves as required by Colorado law. Because Magnum Feedyard is not conducting land application of wastewater, the soils beneath the pivots are not sampled for agronomic purposes and wastewater from the runoff and evaporation ponds is not sampled for nutrient analysis.

Solid Manure

When excess manure solids are present in the confinement pens, the solids are removed by use of loader, scraper, trucks and other available equipment. All manure removed from the pens is currently hauled off-site to third parties. No solid manure is currently applied to any Magnum Feedyard owned or controlled property. Magnum Feedyard utilizes the services of two independent contract manure haulers to remove manure from the feedyard and deliver to the third parties. Verbal agreements exist between Magnum Feedyard and the contract haulers for the manure removal.

Quarterly site monitoring is conducted at the feedyard by AGPROfessionals, LLC. As part of that monitoring process, manure samples are collected (annually at a minimum) and analyzed for nutrient content. Copies of the manure analysis are made available to the manure haulers.

Feed Handling

Magnum Feedyard receives, stores and processes feed and feed supplements daily. All commodities are used to develop specific rations for the confined beef. All feed commodities are stored under roofed areas or in grain bins with the exception of baled hay. The baled hay is stored in an open area southwest of the main processing barn. Surface runoff from the hay storage area drains to a low-lying area southwest of the feedmill area (described above). At the time of the site assessment, no runoff was present in the low-lying area and information provided during the assessment interview indicates very little runoff ever reaches the low-lying area from the hay storage area.

Magnum Feedyard receives whole grain and stores it in grain bins until ready for processing. Cross-over augers deliver the grain through a chamber where an acid is added to the grain to allow the moisture of the grain to rise to approximately 19%. At this moisture level, it is dry rolled into flakes. Flaked grain allows for more efficient digestion and conversion by the cattle.

UTILITY/SERVICE INFORMATION, CONSUMABLES & REGULATED SUBSTANCES

The following information is provided to reference the names of entities and facilities which provide various utilities and services to the feedyard. References may be made regarding consumptive values for some utilities. Records of that information are available either in this report or at Magnum Feedyard's main office. Where such records do not exist or were unavailable, it will be referenced as applicable.

Power

Power is supplied to the feedyard, office, feedmill, residences, shops, and processing barns by Morgan County Rural Electric Association of Fort Morgan. During 2004, Magnum Feedyard consumed 381,460 kilowatt hours of electricity.

Liquid Propane

Cox Oil Company of Greeley, Colorado provides propane (for heating) to the feedyard office, feedmill, processing barn and three on-site residences. During 2004, Magnum Feedyard consumed 9,065 gallons of liquid propane.

Natural Gas

No natural gas is provided to the feedyard at this time.

Domestic Trash

Waste Management Services, Inc. of Sterling, Colorado removes household and domestic solid waste (trash) from the feedyard and residences. Metal dumpsters are located on the property for trash disposal (data not available).

Domestic Sewage

Four septic systems exist on the feedyard property to dispose of domestic sewage from the office and the three on-site residences.

Water

Magnum Feedyard owns 14 water wells. Of those, four are classified as irrigation wells, nine are domestic wells and one is a commercial (non-irrigation) well. Water for the animals on the feedyard is provided by the commercial water well and four of the domestic wells. Morgan County Quality Water District (Quality Water) of Fort Morgan, Colorado provides potable water to the feedyard offices and the

three on-site residences. The Quality Water also serves as a backup for the animal watering system. No consumption records were available at the time of the site assessment. Depth to groundwater is approximately 72 feet as reported by the feedyard. A 385,000 gallon groundwater steel tank exists at the southwest corner of the feedyard to provide water storage for the feedyard. During 2004, Magnum Feedyard received approximately 2,564,000 gallons of water from the Morgan County Quality Water District.

As previously discussed, Magnum Feedyard utilizes overflow troughs during the winter months to prevent water lines and troughs from freezing. The overflow water is recharged to groundwater by having overflow valves on each trough direct the overflow through underground piping. The underground piping extends downward from the trough at a 45 degree angle past the concrete pad and conveys the overflow to the underlying soils approximately 8 to 10 feet deep. AGPROfessionals, LLC provides quarterly site monitoring of the feedyard. As part of that monitoring process, water well samples are collected semi-annually.

Fuel

A 1,000 gallon diesel and 1,000 gallon gasoline above ground fuel storage tank exist within a concrete secondary containment structure south of the shop to provide fuel for facility vehicles. Based on records provided by the feedyard, approximately 32,508 gallons of diesel and 9,206 gallons of gasoline were consumed in 2004. A 500 gallon motor oil and 300 gallon hydraulic oil tank exist inside the shop and processing barn, respectively. The motor oil is used to service facility vehicles and the hydraulic oil is used in the processing barns for hydraulic squeeze chutes. At the time of this assessment, no Spill Prevention Countermeasure and Control Plan (SPCC Plan) existed for the fuel storage tanks on-site. As of January 20, 2005, the facility developed and implemented a SPCC Plan.

Veterinary Supplies/Sharps

Veterinary supplies are provided to the feedyard by a number of companies. Magnum Feedyard disposes of veterinary supplies in the dumpsters as solid waste. For those animals needing medical attention, approximately 85% of the animals are processed and doctored at the main hospital barn located west of the main office. The remaining 15% are processed and doctored at a processing barn located in the east-central portion of the feedyard. Sharps, needles, syringes and all used veterinary supplies are placed in properly labeled containers at each processing area and disposed of in the solid waste dumpster.

Pest, Rodents & Weeds

EcoLab of Greeley, Colorado provides bait traps to control rodents at the feedyard. Flies are controlled primarily by routine maintenance of feedyard surfaces. Magnum Feedyard is diligent in maintaining pen surfaces to eliminate standing water, periodically mowing and stripping vegetated areas and promoting and implementing good housekeeping procedures. In the past, Magnum Feedyard has also used, BioSwat (wasps and larvae), fly spray, and granulated baits. Magnum Feedyard utilizes small amounts of 2, 4-D to control unwanted weed growth. All herbicides and pesticides are applied by a certified applicator and are stored in the shop.

Mortalities

All mortalities are removed daily, or as needed, from the facility. Fort Morgan Pet Foods removes mortalities from the facility.

Recyclables

Used Oil

Used oil from facility vehicles is consumed in a used oil burner located in the shop. A 250-gallon used oil tank is attached to the burner as a fuel source. All additional used oil is stored in properly labeled 100-gallon barrels in the shop with a maximum of 500 gallons being stored at any one time. Currently, this is the only method of used oil disposal by Magnum Feedyard.

Batteries

Used batteries from facility vehicles are recycled through the Town of Wiggins Lions Club recycle program. Used batteries are stored in the shop until the annual recycle program is available. As an alternative means of disposal, Magnum Feedyard periodically returns the batteries to local automotive stores for replacement and core charge.

Anti-freeze

As anti-freeze is changed from facility vehicles, the used anti-freeze is hauled to the Town of Wiggins and properly disposed. Magnum Feedyard does not store any used anti-freeze on-site.

Solvents

Employees in the shop utilize a solvent-based parts cleaner for cleaning mechanical items during repair. Magnum Feedyard utilizes a "safe" solvent that is considered environmentally-friendly. No product name

was supplied, but the solvent is periodically recycled and disposed of by the company that provides the solvent.

Scrap Metal & Debris

Located at the south end of the feedyard is debris such as used lumber and scrap metal. Currently, little to no recycling of these materials is conducted.

Tires

Magnum Feedyard stores a number of used tires south of the hay storage area. Currently the tires serve no purpose.

Other Hazardous Disposals

Dipping Vat

One abandoned concrete dipping vat exists along the south side of the main processing barn. The dipping vat was backfilled with dirt and capped with concrete in the mid 1990's. To date, no known subsurface soil sampling has been performed to confirm or deny the presence of pesticide contamination.

USTs

Two former underground storage tanks (USTs) existed at the facility when the facility was purchased by Magnum Feedyard in 1994. Neither tank was in service at the time of purchase and were subsequently removed. During removal, both tanks were empty and no obvious signs of damage (cracks, tears, holes) were observed. No subsurface soil sampling was performed at that time.

Trash Pits

One historic trash pit existed at the facility adjacent or very near the low-lying area near the hay storage area. The trash pit was utilized by the previous owners but was never used by Magnum Feedyard for disposal purposes. A majority of the debris was hauled off-site or incinerated on site. No other trash pits are known to have existed at the facility.

REGULATORY DISCUSSION

County Permit

Magnum Feedyard is currently authorized through the Morgan County Planning and Zoning Department with a Use by Special Review (USR) for 35,000 head of beef cattle. The USR was originally applied for in or around 1997. Modification of the feedyard would be needed prior to expanding capacity to the allowable USR number.

State/Federal Operating Permit

Currently, the feedyard is not permitted with either the State of Colorado or the Environmental Protection Agency. Magnum Feedyard has submitted a Notice of Intent (to get necessary permits by April 2006) with the CDPHE. To this end, the feedyard is actively working with an environmental consultant to bring the facility into compliance with the State of Colorado's General Permit for Concentrated Animal Feeding Operations (CAFO) requirements.

Compliance History/Required Record Keeping

Magnum Feedyard employees the services of AGPROfessionals, LLC of Longmont, Colorado to perform quarterly site inspections of the feedyard. These services include evaluating the feedyard for compliance needs and updating all record keeping requirements. Documentation of AGPROfessionals, LLC inspections are maintained at the feedyard office with a backup copy maintained by the consultant. AGPROfessionals, LLC also provides periodic employee training of required recordkeeping and inspection items. To date, Magnum Feedyard has never experienced a wastewater discharge from the facility.

Dust/Odor

Approximately ten years ago, one odor complaint was filed with the Northeast Colorado Health Department on Magnum Feedyard. Since that time, Magnum Feedyard is unaware of any other complaints. Magnum Feedyard is diligent in attempting to keep odors and dust to a minimum. Aggressive pen and roadway maintenance programs are implemented to minimize the amount of dust generated. Roadways are periodically stripped and regraded to eliminate dust. Any dust that remains after pen scraping and/or roadway regrading is placed in the manure stockpiles. Periodically, the facility also utilizes a water wagon to spray facility roads to control dust. A sprinkler system exists over a portion of the feedyard to control pen dust.

Additionally, the periodic and routine transfer of wastewater to the evaporation ponds allows for more surface area for evaporative disposal thereby reducing the amount of wastewater present at the facility more quickly. Magnum Feedyard planted a tree row of 40 cottonless cotton trees along the north side of the feedyard in cooperation with the Morgan County USDA. The presence of the tree row will not only assist in dispersing and capturing airborne dust particles, but provide an aesthetically-pleasing view and sight buffer for a portion of the facility.

Public Perception/Relationship

According to Mr. Gabel, Magnum Feedyard enjoys a relatively healthy relationship with adjacent land owners and neighbors. He notes that 22 new residences have shown up along the north side of the feedyard in the past several years. The closest occupied structure not owned by the feedyard is approximately ¾ of a mile away. The feedyard location is sited such that its direction from the Town of Wiggins to the southwest is advantageous with respective to prevailing winds. The strongest winds are typically from the northwest during the fall and winter months. Gentler winds from the south occur during spring and summer.

Emergency Plans

At the time of the assessment, Magnum Feedyard did not have any written emergency protocols. Feedyard personnel, however, have and would be instructed verbally on how to respond to certain situations. Supervisors carry two-way radios and chain-of-commands are followed to notify the appropriate person(s) and/or the office of emergency situations.